

Tactical Force Protection for the Total Army

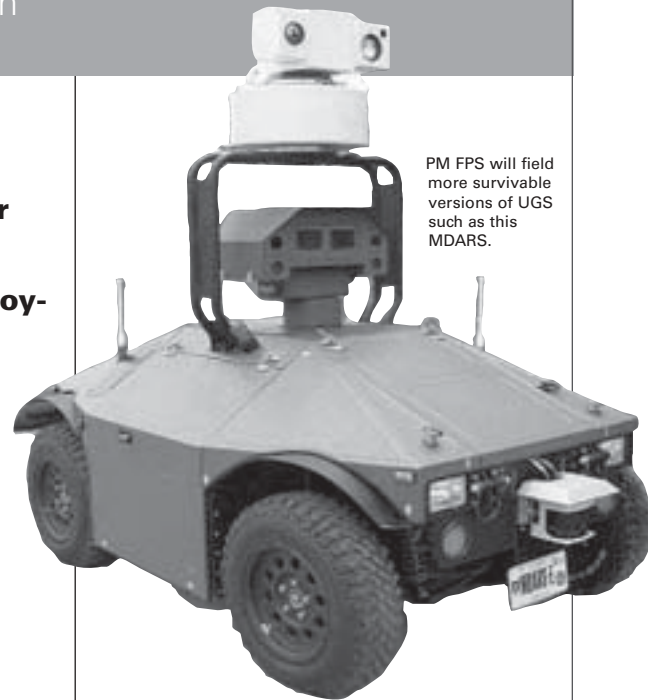
LTC Eugene F. Stockel and Jon Moneyhun

We are a Nation at war. Wherever American forces are deployed, they become lucrative targets for those who intend to do us harm or undermine our will to continue to carry the fight to the enemy. In this post-9/11 era of multiple worldwide deployments, enhanced tactical force protection (TFP) is an absolute necessity to conserve and protect our Soldiers, operation bases and equipment. The enormous strains that emerging security requirements and the global war on terrorism (GWOT) are placing on available forces make it imperative that we leverage our superior technologies to enhance TFP capabilities while also reducing manpower requirements.

The Army's ongoing evolution to smaller, more capable expeditionary forces will further increase our reliance on force protection technology to sustain and protect our forces across the full spectrum of combat, stability and support operations. Product Manager Force Protection Systems (PM FPS) is at the forefront of these efforts. PM FPS' mission is to provide affordable, scalable, modular, tailorable and logistically supportable force protection capabilities to tactical forces deployed worldwide. We must provide our Soldiers with the best force protection available whenever they deploy into harm's way. Force protection encompasses a wide array of capabilities. PM

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FPS is focused on delivering enabling capabilities to reduce manpower requirements while further enhancing tactical units' security posture. A unit at 100-percent security is not fixing, refueling, maintaining, resting or cooking — it is focused on self-preservation instead of creating conditions favorable to mission accomplishment. Sustaining high levels of security over time enormously taxes a unit's combat effectiveness and has a corrosive effect on individual morale and well-being. TFP capabilities employing unmanned ground sensors (UGS), cued imagers, robotic assessment and response represent the future. By synthesizing these capabilities, commanders can sustain desired levels of security while reducing manpower requirements.



PM FPS will field more survivable versions of UGS such as this MDARS.

In fact, these technologies can become combat multipliers because their continuous availability, consistency and reliability provide an essential complement to the Soldier sentry. Additionally, these technologies will reduce Soldier risk and enable commanders to focus more manpower on core warfighting missions.

The TFP Challenge

The need for TFP exists throughout the battlespace and across the spectrum of operations, as demonstrated in *Operations Enduring* and *Iraqi Freedom*. The requirement for affordable TFP capabilities is exemplified in a recent exchange with a forward-deployed force protection officer in which he indicated that he had a 19-kilometer perimeter with escort requirements and needed TFP technology to reduce manpower requirements. This situation is replayed wherever U.S. forces maintain a forward presence in a potentially hostile environment. Army Chief of Staff GEN Peter J. Schoomaker alluded to the challenge that wide-area security missions and

TFP pose when he said, "Soldiers must learn how to perform ground functions — jobs of infantry and military police. Every unit should be able to conduct its own force protection."

On today's noncontiguous battlefield, all units require force protection capabilities while performing their missions. Levels of proficiency for conducting TFP vary widely from combat support/combat service support units conducting maintenance and logistics functions, to combat units closing with and destroying the enemy. We must provide combatant commanders standardized TFP capabilities that get the job done while minimizing risk to Soldiers. Addressing the TFP challenge requires investment in research and development (R&D) to deliver affordable, scalable, modular and sustainable force protection equipment. This can be accomplished through an evolutionary acquisition strategy of capability upgrades in the near-, mid- and far-terms that leverage the Army's command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) investments in UGSs, unmanned ground vehicles (UGVs) and surveillance radar and imaging technology.

Force Protection Equipment and Systems Imperatives

To make the TFP vision a reality, we must ensure that FPS is:

- **Affordable.** Tactical security must be good enough to get the job done. The Army cannot afford to buy high-end force protection for the entire force when low-end technology will get the job done just as effectively.
- **Modular.** Plug-and-play systems are necessary so that commanders can tailor their units' structures based on mission, enemy, troops, time and terrain.

- **Scalable.** Scalability enables commanders to employ the same hardware for both small and large requirements.
- **Supportable.** FPS must be maintainable by Soldiers in the field with limited contractor logistics support.

Force protection today is manpower- and labor-intensive because Soldiers must physically man checkpoints, perimeters and listening and observation posts and conduct patrols or overwatch barriers. Night vision devices, tactical sensors, imagers, ground surveillance radars and barriers are current FPS equipment being used by Soldiers. This equipment must be integrated with an added autonomous capability to fully exploit the potential these individual technologies provide. The technology exists today but requires further R&D, testing and evaluation to be fielded as a fully integrated system-of-systems.

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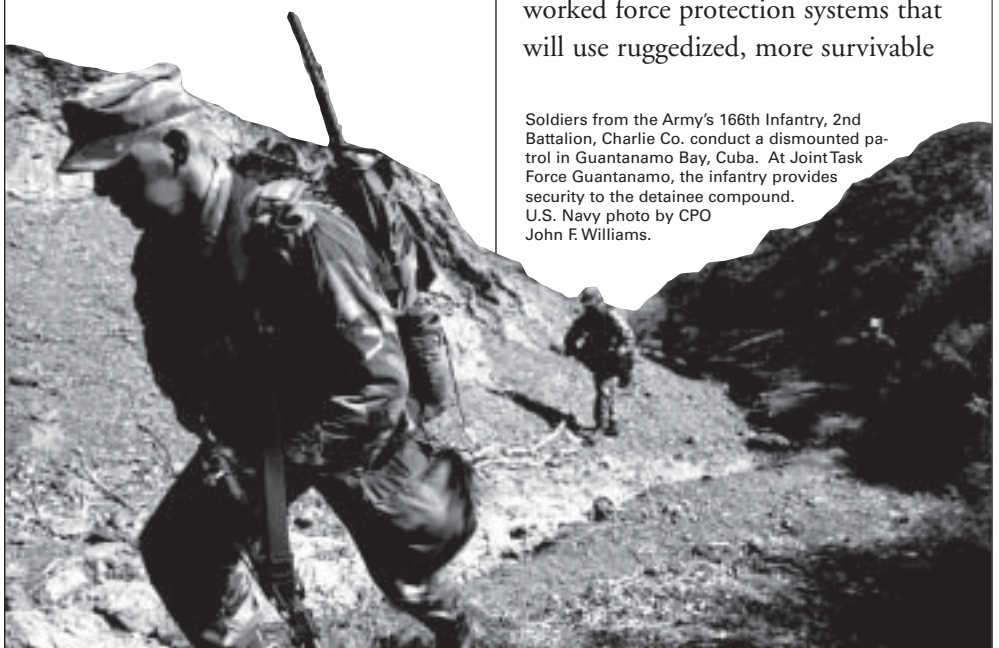
GEN Peter J. Schoomaker

Near-Term Force Protection

Near-term TFP will be provided by integrating available systems such as the Battlefield Anti-Intrusion System (BAIS) and a yet-to-be-developed trailer-mounted sensor system integrating surveillance radar to perform as a cuing sensor for mast-mounted imagers. The BAIS replaced the obsolete Platoon Early Warning Device II and provides a reliable early detection, identification and warning capability to small tactical units. The trailer-mounted imaging and radar system is a low-cost battlefield surveillance means. These capabilities provide enhanced force protection, limited connectivity and a reduction in the manpower required for TFP. PM FPS is aggressively working integration issues and partnering arrangements with various program managers to provide this capability for the Current Force during FYs 05-06.

Midterm Force Protection

During FYs 07-12, PM FPS will field more scalable, modular, flexible, networked force protection systems that will use ruggedized, more survivable



Soldiers from the Army's 166th Infantry, 2nd Battalion, Charlie Co. conduct a dismounted patrol in Guantanamo Bay, Cuba. At Joint Task Force Guantanamo, the infantry provides security to the detainee compound. U.S. Navy photo by CPO John F. Williams.

versions of integrated UGS such as BAIS, autonomous UGVs such as the Mobile Detection Assessment Response Systems (MDARS) and remotely operated unmanned weapons systems. Block upgrades to the MDARS UGV platform will provide an autonomous capability to patrol, detect, assess and respond to tactical security threats. Advanced imaging sensors with targeting capabilities, improved UGS and unmanned aerial vehicles (UAVs) will all be networked to deploy, detect, monitor and report enemy intrusions.

Future Force Protection (FY12+)

Beyond FY12, TFP will be the fully integrated systems architecture that will plug into the Future Force's C4ISR systems architecture. A single soldier will be able to control multiple force protection unmanned systems/sensors to detect, assess and respond to enemy activity in a fully autonomous mode. Robotics platforms such as MDARS will employ smaller UGVs in military operations on urbanized terrain and other tactical operations to search for enemy snipers, booby traps

and unexploded ordnance. UAVs will provide aerial force protection over vast battlefield areas and will be linked to UGVs on the ground. Unmanned systems will be used to autonomously respond to enemy security intrusions with both lethal and nonlethal force. This futuristic approach is designed to protect the force, reduce TFP manpower requirements and allow Soldiers to focus on their wartime mission requirements.

We have a long way to go to stop the force protection threat that our Soldiers face every day. The strategic pause ended after September 11, 2001. Our Nation is at war, and we are transforming the Army to become more lethal, deployable, agile, versatile, responsive and sustainable regardless of where the mission takes us. To accomplish this, we must provide the best available force protection technology and systems to Soldiers today while we continue developing and refining the total TFP package for the future. The Army is investing heavily in GWOT. We must do everything possible to reduce the risks associated with combat operations. TFP provides Soldiers

with an affordable and operationally effective means to protect themselves while also reducing casualties and conserving manpower.

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Army Science and Technology — Working for Soldiers

MAJ Dennis Ellison and Meg Williams

The Association of the United States Army Winter Symposium and Exhibition, held in Fort Lauderdale, FL, March 3-5, 2004, devoted its first day to "Science and Technology (S&T) for the Current and Future Force," marking S&T's strategic importance to warfighting now and in the future. Following are highlights from the presentations and panel discussions.

GEN Paul J. Kern, Commanding General, U.S. Army Materiel Command (AMC), discussed how AMC is working to integrate S&T efforts into better materiel for Soldiers — from improved batteries and sensors and lighter protective gear to increased human performance through better training.

Kern discussed how AMC is working more jointly, integrating feedback from sources other than the Army and searching worldwide for leaps in technology.